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## **Can school meal provision contribute to the reduction of social inequalities in health and improve learning outcomes?**

*The case of Denmark and Sweden*

Mikkelsen, Bent Egberg

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# **Improving the lives of children and young people: case studies from Europe**

## **Volume 3. School**



# Improving the lives of children and young people: case studies from Europe

## **Volume 3. School**

Editors: Vivian Barnekow, Bjarne Bruun Jensen, Candace Currie, Alan Dyson,  
Naomi Eisenstadt and Edward Melhuish

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### **3.3. Can school meal provision contribute to the reduction of social inequalities in health and improve learning outcomes? The case of Denmark and Sweden**

*Bent Egberg Mikkelsen*

*Meal Science and Public Health Nutrition Research Group, Copenhagen*

#### **Context**

This case study focuses on school meal provision and its potential contribution to reducing social inequalities in health and improving learning outcomes among children and adolescents, using national approaches to school food services in Denmark and Sweden as examples. It describes the overall structure of the provision of school meals in the two countries and presents three cases in which participation, social inequalities in health and learning outcomes have been addressed. These cases contribute to the debate on the future of school meal provision and the potential for such provision to play a more active role in shaping young people's health and promoting health equality by making healthy choices more widely available to those from disadvantaged families.

#### **Approach**

The idea that school should contribute to protecting children's health by promoting healthy diets and physical activity is not new and has been pursued increasingly by policy-makers and experts in recent years (1–4). Young people spend long hours in school for up to 10 years. Schools have obligations to educate about life skills and contribute to social inclusion. Recognition that the school food service can contribute not only to improving childhood health outcomes but also to reducing health inequalities has been reflected in some school food policies and programmes at local, regional and national level.

Studies show that the “captive” nature of the school environment and its position within society makes establishing norms for nutritional quality a relatively easy task. School food in most cases is subject to strict quality and composition regulation. Nutritional quality of school lunches is significantly better when it is provided by school (5,6). Consequently, the idea of providing food at school to support healthier eating patterns for young people from across social groups is being applied in many parts of the world, including the United Kingdom, India and the United States (7–9).

Data on health outcomes describe clearly the effect of the health divide among children and young people. In Denmark, 22% of children and adolescents living in single-parent households report themselves as being overweight, while only 14% in two-parent families do so (10). The prevalence of overweight among 7-year-olds whose mothers are unskilled blue-collar workers is 12.6% but only 6.7% when mothers are white-collar employees (11). A similar pattern emerges for poor cognitive development (the figures being 11.3% and 8.4% respectively (11)). Inequalities are also apparent for children and adolescents whose mothers have a low level of education. Prevalence of children reporting several symptoms of poor health or well-being each day is 4% in social class 1 compared to 10% in social class 5 (10). Other statistics show that children with disadvantaged parents have more problems in nonlinguistic communication and social behaviour during their early development than those from economically advantaged families (12).

Schools provide better opportunities for nonstigmatizing interventions compared to, for example, family settings and have the potential to reach a large proportion of the population through a standardized mass-strategy approach (healthy eating and lifestyle habits tend to track into adulthood) (13). Although the ways in which food is provided in European schools show considerable variability (14), the trend seems to be in the direction of increasing public engagement in this area. Studies show that foods consumed at school might contribute to 35–38% of total daily energy intake (15,16) and, as a result, have considerable effects on health outcomes.

### ***School food provision in Denmark***

Parents have traditionally been responsible for providing lunch for their children during the school day in Denmark, but this is gradually changing. Longer school days and tight family schedules are driving a trend towards school-based meal provision. Although government policy aims to ensure publically provided food in school (17), there is no mandatory provision. Instead, developments are primarily driven by municipal and local initiatives resulting from pressure from food, nutrition and health practitioners, parents and students.

Increasing numbers of schools consequently are providing some kind of food service, although only around one in four offers complete meals based on a food and nutrition policy and provides a dining environment with seating facilities. State support for food provision was defined in the child nutrition programme developed under the Fiscal Bill in 2001, which allocated substantial funding to develop healthy and nutritious food provision in schools between 2001 and 2003. The evaluation showed that programme-related school projects had created an increased focus on healthy food and meal habits among parents, management and staff.

Meals offered by school food services are expected to comply with official guidelines (18). The Danish Parliament has been discussing national legislation on school meals provision but has so far favoured a market-driven approach in which schools, in cooperation with municipalities, can decide on whether to provide food or not. School meals are generally financed by parents, with only a few municipalities (including Copenhagen) offering free-school-meal entitlement (FSME) schemes. The market-driven approach has seriously limited participation, with average uptakes below 10% (reportedly 6.5% in Copenhagen (19)). These problems have fuelled many schools' interest in developing socially oriented models of school lunch provision that promote participation. Local initiatives based on students' active involvement and integration of food, health and nutrition in the school ethos and curricula have consequently emerged.

### ***School food provision in Sweden***

Sweden has a long tradition of providing free school meals in primary and secondary school, regulated by state law. Elementary school pupils have had a statutory right to free school lunches since 1997 through the Education Act and subsequent amendments. The general picture of provision is therefore much more uniform than in Denmark, although state regulation is interpreted differently by municipalities across the country.

School meals are funded by municipal taxes and municipalities operate the services in most areas (private-contract caterers do so in some). Headteachers, municipal dietitians or private-contract caterers are responsible for school meal staff. The focus is on lunch, but a growing number of schools now also offer breakfast. School food must comply with official Swedish Government Food Agency quality criteria and guidelines (20) based on national nutrition

recommendations (21) that address nutrient content, menu planning, hygiene, eating environment and integration of the school food service within curricular activities. Guidelines target decision-makers in municipalities, headteachers, catering managers, catering staff, teachers and school nurses and also address parents' responsibilities.

The quality of school lunches varies between municipalities and schools despite state regulation, and only around half of municipalities have adopted food and nutrition policies for the school food service. The main focus in the Swedish approach is on food provision. The Swedish Food Agency hosts a web site in which pupils, parents, school meal personnel and decision-makers can rate meals (24) and quality assurance tools are under development.

## Evidence

Three cases of local best practice approaches to promoting health through school food services are presented in this section. The cases should be seen as examples of particularly successful interpretations of the different national paradigms that exist in Sweden and Denmark: the Swedish collective and state-guaranteed model, and the Danish market- and consumer-driven approach that places responsibility at municipal or school level.

The evidence is based on case studies supported either by interviews or documents or a combination of the two. It should be noted that there is a fair amount of evidence reported in reviews from different countries that school food interventions can improve eating habits among students, although studies in general fail to show effects on health status outcomes such as BMI and biomarkers. No such quantitative evidence exists for the cases presented here due to the fact that controlled and randomized trials are extremely costly and rarely carried out in practice. Instead, a narrative qualitative approach in which the testimony and voice of practitioners are used to inform the study has been adopted.

### *City of Gladsaxe (Denmark) – Værebros School*

The school has 370 students and a school meal system participation rate of 70%.

Værebros School is located in Gladsaxe municipality in suburban Copenhagen. The municipality policy is that food should be available to all children. Municipal health advisers have developed a nutrition manual for schools and responsibility for the school food service lies with headteachers. Værebros School prioritizes food and nutrition and has set an outstanding example of best practice for some years, aiming to make a difference through its approach.

The school is situated in a mixed neighbourhood with both high-rise apartments and villas. Students come from very diverse ethnic and socioeconomic backgrounds, with approximately 40% having an ethnic background other than Danish. The school has chosen to use food as a way to build bridges across socioeconomic gaps through, for instance, respecting different culturally determined dietary requirements and encouraging a participatory approach in which students have responsibilities for cooking and serving food.

The idea is to limit operational costs and use cooking as a means of developing social bonds among students. School staff believe this creates a sense of ownership and that students are likely to prefer meals that they or their classmates have cooked. Classes participate in the cooking teams on an alternating schedule and receive training in food, nutrition and health subjects. Dietitians have been impressed by children's levels of knowledge about healthy

eating and raw materials. Canteen and curricular activities are integrated through themed project weeks and teaching in home-economics classes.

Værebroskolen has run its food and nutrition activities since 2003 and has been engaging with practitioners and researchers to improve its service and to create the necessary evidence to influence future policy. The school has managed to develop cooperation between canteen and teaching staff in pursuit of the overarching principle of the school taking responsibility for pupils' health and promoting their and teachers' ability to participate in nutrition issues.

All students in grades 3–8 work with the canteen project for three weeks in each academic year, with individual classes taking responsibility for planning, cooking and selling the canteen food. The class is divided into three teams during a canteen project period, each working in the canteen from 08:00 to 13:00 for a week while the other two teams receive classroom training. The initiative is anchored by a team of teachers/canteen supervisors, managers and school board members, with the principles of management and operation described in the school food and nutrition policy. To strengthen links between school and families, students receive a "family cookbook" to take home.

School staff report that students have been less "fussy" and more health-conscious as a result of the initiative. Students are well motivated and enjoy the experience, with only a few conflicts. The school believes the development of a salad bar in the canteen is contributing to influencing preferences.

#### *City of Copenhagen (Denmark) – Hillerødsgade School*

The school has 220 students and the school meal system participation rate is 87%.

Hillerødsgade School belongs to the municipality of Copenhagen and is situated in a previously working-class neighbourhood in the Outer Nørrebro area. The school has a special focus on increasing opportunities for children and young people in vulnerable areas of Copenhagen and 99% of students have an ethnic background other than Danish. Parents are among the poorest in the city: approximately 82% of students come from homes where one or both parents are on welfare benefits.

The school is a whole-day establishment with a special emphasis on food and nutrition practice and education and has its own catering-production kitchen. It offers four meals daily, with children participating in kitchen activities as part of their home-economics studies. Meals are partially paid by parents (families with three or more siblings enjoy discounts), but a FSME scheme is available. The municipality partly finances the initiative and running costs of the kitchen.

The overall aim of the scheme is to promote health among school students. Provision of school meals supports this in different ways: "passively", by complying with official nutrient guidelines for health; and "actively", by engaging in shaping children's and adolescents' eating patterns. A clearly stated objective is to encourage children to eat a more varied diet that includes an increased intake of meat, fish and vegetables. Positive signs of behavioural change in eating habits have been seen as a consequence.

The concept is based on developing action competence in relation to health. Children are expected to engage in a learning process in which the cooking results in the acquisition of knowledge about healthy meals and healthy lifestyles. In doing so, they develop experience



in how to use food to promote their health. The ability to make active and informed choices and create and cook healthy meals actively enhances the life skills of the children and young people involved.

Participants making choices on behalf of their fellow students is an important part of the concept and calls for the development of appropriate social competences. Social inclusion is promoted through supporting cooperation around preparation and cooking, with meal times prioritized as opportunities to enhance social interaction among students and with teachers. It is standard procedure for teachers to engage all children in conversation during meal times to convey a caring and comforting attitude and create a sense of belonging to a group.

School staff report that meals are considered an important element in developing and maintaining the school's social life and that they see the school food service initiative as contributing to counteracting health inequalities by supporting vulnerable groups to make healthy choices and adopt healthy habits in their daily lives. Students are less disruptive, have more energy and enthusiasm for learning during afternoon sessions, are involved in fewer conflicts and are performing better in compulsory school tests.

The school acknowledges that food and meals should be an integrated part of the school experience for students and staff, with the four daily meals being considered as opportunities for learning and social engagement. The initiative enjoys broad approval from teachers who are happy to support students' participation in the kitchen even if it means delays to their education programmes.

#### *City of Malmö (Sweden) – Djupodal School*

Djupodal School is a primary school, one of 82 schools in the Municipality of Malmö. All schoolchildren participated in the initiative.

Providing a school food service has been mandatory in Sweden for many years, but quality is variable and general population support is now being questioned. The municipality has consequently made considerable efforts to revitalize this important service through its environmental protection agency, which has been tasked with linking nutrition and health with sustainability, taking a particular focus on climate effects of food. Goals include the provision of 100% organic food to all public schools.

Three projects have been launched, with the Djupodal School identified as the primary site for initiatives. An important element of participation is creating links to the curriculum and integrating issues about organic foods and climate effects of food consumption and sustainability as learning objectives.

The food service is based on local school food preparation. As in all other Swedish schools, the primary health deliverable is achieved through supplying meals that comply with guidelines, but the school has made a special effort to expand the range of foods eaten by children, contributing to healthier eating. As an example, it has developed new recipes based on a range of pulses to reflect nutrition and climate advice and seasonal produce has been used to a greater extent. Aspects of local food supply and school garden-based learning facilities have been added to enhance initiatives. An important challenge was to continue to comply with nutritional guidelines while introducing organic produce and meeting students' preferences.

The school kitchen was rebuilt in 2005/2006 to support these innovative activities and to enable Djupadal to act as a reference school for developing new recipes based on organic produce. This involved careful planning, additional education for staff and a strong commitment from the school headteacher. The school has reported increased support and demand for school meals since the revitalization effort began, which runs contrary to the often low popularity of school meal services in Sweden.

The percentage of organic food served at Djupadal School has decreased from 100% to 85–90% since 2007, and other signs of lack of sustainability have been experienced. Despite this, the school and municipality agree that the project has been a success and provides a good example of protecting and improving the image of Swedish school food. School and municipal practitioners attribute their success to the wide participation of catering and education staff, with systematic efforts to offer education opportunities for staff to support implementation being seen as particularly important.

As the case studies indicate, publically provided food services at school hold the potential to contribute to the promotion of health among young people. There are also some indications of the potential such provision has in contributing to the reduction of social inequalities in health, but ensuring school food plays an active role in promoting health for all is not an easy task to complete.

Two distinct and different approaches to school food provision are identified: the consumer approach, as applied in Denmark, and the citizenship approach, applied in Sweden.

The **consumer approach** is characterized by a range of voluntary and local solutions and is financed primarily by parents through pay-per-meal arrangements, as illustrated in the case of Copenhagen and Gladsaxe municipalities. It is also typified by explorative and sometimes experimental bottom-up approaches often involving children in operating the systems. In special cases, such as in Copenhagen, entitlement schemes for disadvantaged young people are available.

The **citizenship approach** is characterized by compulsory state-regulated solutions and is financed by municipalities through taxes. It also features bottom-up approaches but its operations are delivered through a professional workforce, with limited involvement of children. Although the Malmö case stands out in many respects, the basic design of the system resembles those in most other municipalities.

There are also two pathway mechanisms through which food provision at school can be assumed to work in relation to promoting good nutritional behaviour and positive health outcomes in a way that contributes to bridging the health gap across socioeconomic groups.

The first pathway is related to the ability of the publically organized school meal system to guarantee availability of, and accessibility to, healthy lunch or breakfast options that students would otherwise not get. Participation in the school food scheme is key for this pathway to work. Only by ensuring that all students have access to one or more healthy meal options during their school day can it be assumed that health issues are being addressed evenly across socioeconomic borders. The different national approaches adopted in Sweden and Denmark illustrate that the configuration and design of the school food system creates two very

different approaches to participation. The pathway assumes that the “foodscape”<sup>2</sup> of the school can be regarded as a protected food environment, unlike the one that young people encounter when out of school. As a result, there is little disagreement on the idea that the food environment at school should follow strict guidelines on nutritional quality: well-established nutritional guidelines are in operation in both countries and meal options generally comply well with them.

The second pathway is related to how school food might promote health over a longer time frame. This pathway uses the collective practice of students cooking, learning and eating at school as a mediator to strengthen social cohesion among students. As was suggested above, participation in nutrition-friendly school food schemes can be seen as a key factor in promoting individuals’ health, and user-driven and participatory approaches to the delivery of school food systems seems to be key to students taking advantage of meal options.

The cases from Gladsaxe and Copenhagen municipalities clearly show that participatory approaches to school “foodscapes” seem to have the power to create very high compliance rates and a sense of ownership. The two cases also show that student involvement and participatory approaches can be used to exploit the learning opportunities created through growing, preparing and consuming food. It can be assumed that the life skills developed this way might help students from all social backgrounds to adopt a healthy lifestyle and good eating patterns in later life, but it can be speculated that the success of these approaches is partly due to the commitment of “champions” and the bottom-up approach employed. Success may be strongly dependent on contextual factors and the school ethos and achievements might not be readily transferable to other settings. The case of Malmö can be seen as typical of Swedish municipal school food systems that are based on a professional workforce with little student participation.

## Implementation and recommendations

The following recommendations on the design of future school food initiatives, based on the two national approaches and three case studies discussed above, are offered to exploit the opportunities publically provided school food offers in promoting health across socioeconomic borders.

### *National level*

- Food should be available to all students regardless of socioeconomic background, with appropriate payment options and entitlement schemes in place.
- Policies should exist at national level to support local and bottom-up approaches to school food.
- School “foodscapes” should be made protected environments by developing, adopting and maintaining a food and nutrition policy.

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<sup>2</sup> “The physical, organizational and sociocultural captive space in which individuals encounter meals, food, food-related issues and intermediaries” (23).

***School level***

- Multidisciplinary cooperation among teachers, food-service staff and management involved in the design of school “foodscapes” should be promoted.
- Children and adolescents should be involved in the development and, if necessary, operation of the school food service.
- The school “foodscape” should be an environment for learning about food biodiversity, with diversity supported through menu-planning procedures.
- Coherence between food service practice and classroom activities should be ensured by integrating food and nutrition issues within the curriculum, using the whole-school approach.
- Learning and social cohesion opportunities created by the local food environment should be exploited through providing insight into local food, farming and food chains.

**Conclusion**

The cases show that participation in, and exploitation of, meal options is key if school food is to make a difference to health. Although the Danish cases enjoy high participation rates, making school food a consumer-driven choice generally results in very poor compliance and participation. In some cases, only a small minority of students take lunch at school (19), with most opting for commercial fast-food outlets or lunchboxes or simply skipping the meal.

In the case of the Swedish citizenship approach, free school food for all has been defined as an integrated part of the “*folkhäms*”<sup>3</sup> welfare model and, as a result, compliance and participation are very high, as was seen in the case of Malmö. Poor participation in public school meal schemes resulting from a consumer-driven approach may be considerable among vulnerable groups of students, although it can be partly counteracted through financial instruments and FSME schemes, as in the case of Copenhagen. Such schemes, however, carry the risk of stigmatizing the individuals who might benefit from them.

Participation rates of 5–10% in school food in Denmark is not going to lead to any significant effect on public health or contribute to diminishing the socially determined gap in health, even though publically provided school meals may comply with official guidelines for healthy eating. An important step is therefore to make sure that school food is made available at schools and that it is accessible to all. This is especially important since studies of the Copenhagen school food system show that 76% of young people skipping lunch belong to social class 2 or 3 (24).

The Swedish collective approach to school food might serve as an example. Although Swedish school meals in some cases are being criticized for their quality, the citizenship-based approach is providing a way to ensure food is available to all. School food should be for all, in the same way as the curriculum is for all. One way to facilitate this would be to decouple provision from payment. Costs are met from public taxes in the Swedish case, but in Denmark, most costs are paid by parents. The Copenhagen case gives some insight into how this can be done.

It is clear that the broader policy framework in Denmark within which the agenda of public school food sits is not currently favouring a citizenship-based approach. The financial crisis

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<sup>3</sup> Roughly translated, this expresses the idea of Sweden being a “home” for its people.

makes it unlikely that this is going to change in coming years. Instead, innovative ways to promote health through school food tends to arise from local bottom-up approaches that adopt a participatory approach. The Copenhagen and Gladsaxe cases illustrate this: even in a market-driven environment that involves payment considerations, they have been able to successfully address the gap created by inequalities in health, lifestyle and living conditions and achieve high rates of participation. They have also shown that it is possible to regard food and meals as a mediator for social interaction, that cooking and preparation present opportunities for learning, and that school food can be used to refine students' preferences. This has been illustrated in a Danish study in which Benn et al. (25) showed that school food services seemed to create knowledge and skills about food and a willingness to try out new options and dishes. The study also showed that the school food service contributed to the development of affective and sociocultural aspects of learning that were related to pupils' critical reflection on new dishes and experiences of eating the same food together in class.

The Swedish case illustrates clearly the potential of a national, regulatory, top-down approach to using school food as a mediator of good nutrition for students. Swedish schools do not face the challenge of attracting students to eating at school; in most cases, the integration of school meals in the school culture takes care of that and contributes to very high participation rates. The Swedish case also shows, however, some of the pitfalls of relying on a top-down, "one-size-fits-all" approach. In many cases, school food is unappealing to students, teachers and parents. The Malmö case suggests one way to revitalize the service and how a more integrated approach to linking food services with learning opportunities for young people can be achieved.

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